Loose experimentally demonstrated that if water or soil contaminated with the encysted hookworm larva is brought in contact with the skin (Fig. 5), the parasite will attach itself and bore its way through the skin. The old protecting sheath is left behind as the larva enters the skin.

SIX WEEKS REQUIRED TO COMPLETE DEVELOPMENT.—After about six weeks the eggs of the adult worm will begin to pass regularly in the stools of the infected person. Treatment reveals the adult worm, and on its completion there is no further appearance of eggs in the stools. Others have since confirmed this work. *All noticed that when the larvæ are penetrating the skin, a typical "ground itch" develops.* Since many thousands of cases have been treated, and in all cases with, of course, some exceptions, a history of "ground itch" is given, which occurred prior to the beginning of the impaired health of the host, we are convinced that *"ground itch"* (Fig. 4), "dew poison," or "foot itch," as it is variously termed, *is the initial symptom of hookworm disease.*

HOW THE LITTLE WORM PASSES FROM THE SKIN TO THE INTESTINE.— Entering the skin (Fig. 4), the larva probably directly, or indirectly through the lymphatic system, reaches the blood current and by it is
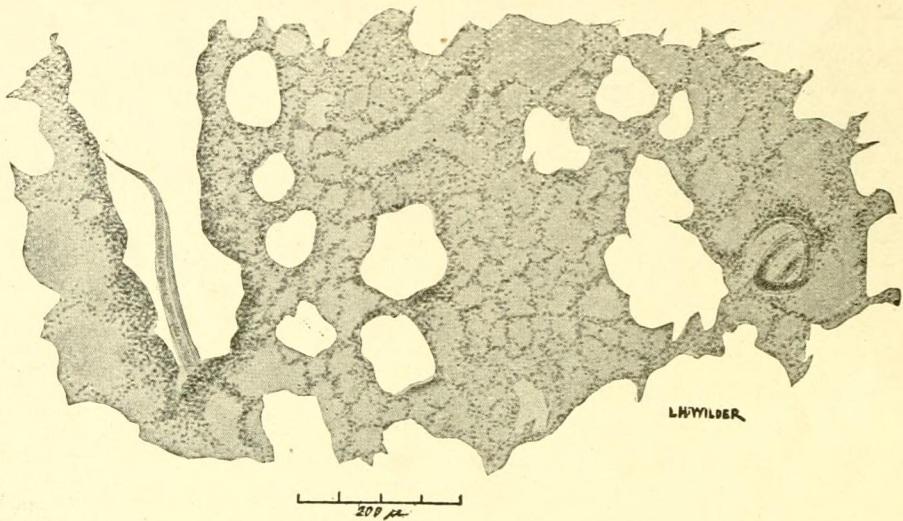

FIGURE 6. This shows two young hookworms in the lungs. The worm on the left is entering the air tubes. (P. H. & M. H. Service.)

swept through the heart and on to the lungs (Fig. 6). Being too large to pass through the blood capillaries of the lungs, it bursts out of them and enters the air spaces. It probably crawls along these until the trachea or windpipe is reached. This is ascended. In turn this active, resistant, unseen foe reaches the throat, passes down the esophagus to the stomach, and ultimately to the small intestine.

DEVELOPMENT COMPLETED IN INTESTINE.—Its struggle for existence may now be rewarded, for it is at its final home and may complete its development, becoming an adult hookworm. In this transition it twice sheds its skin, takes much food, and grows remarkably in size.